Bullet Camera

Hardware Manual

E44, E45, E46

Ver. 2014/05/05

ACTi
Connecting Vision

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Precautions

Read these instructions

You should read all the safety and operating instructions before using this product.

Heed all warnings

You must adhere to all the warnings on the product and in the instruction manual. Failure to follow the safety instruction given may directly endanger people, cause damage to the system or to other equipment.

Servicing

Do not attempt to service this video device yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Trademarks

All names used in this manual are probably registered trademarks of respective companies.

Liability

Every reasonable care has been taken during the writing of this manual. Please inform your local office if you find any inaccuracies or omissions. We cannot be held responsible for any typographical or technical errors and reserve the right to make changes to the product and manuals without prior notice.

Federal Communications Commission Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: Changes or modifications to the equipment that are not expressly approved by the responsible party for compliance could void the user's authority to operate the equipment.

European Community Compliance Statement

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022 and EN 55024. In a domestic environment, this product may cause radio interference in which cause the user may be required to take adequate measures.

Safety Instructions

Cleaning

Disconnect this video product from the power supply before cleaning.

Attachments

Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

Water and Moisture

Do not use this video product near water, for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool and the like.

Don’t use accessories not recommended by the manufacturer

Only install this device in a dry place protected from weather

Servicing

Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Damage Requiring service

Disconnect this video product from the power supply immediately and refer servicing to qualified service personnel under the following conditions.

1) When the power-supply cord or plug is damaged
2) If liquid has been spilled, or objects have fallen into the video product.
3) If the video product has been directly exposed to rain or water.
4) If the video product does not operate normally by following the operating Instructions in this manual. Adjust only those controls that are covered by the instruction manual, as an improper adjustment of other controls may result in damage, and will often require extensive work by a qualified technician to restore the video product to its normal operation.

Safety Check

Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine if the video product is in proper operating condition.

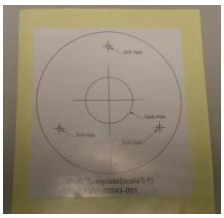
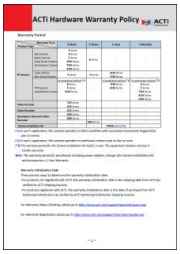
Introduction

List of Models

This hardware manual contains the following models:

E44		2MP Bullet with D/N, Adaptive IR, Basic WDR, SLLS, Vari-focal lens
E45		1MP Bullet with D/N, Adaptive IR, Superior WDR, Vari-focal lens
E46		3MP Bullet with D/N, Adaptive IR, Superior WDR, Vari-focal lens

Package Contents

Camera	Bracket Plate	Sunshield
Drill Template	**Mounting Screw Kit**	**Sunshield Screw Kit**
		
Conduit Gland	**Cable Gland**	**Washer**
Warranty Card	**Quick Installation Guide**	
		

Physical Description

Side View

Back View

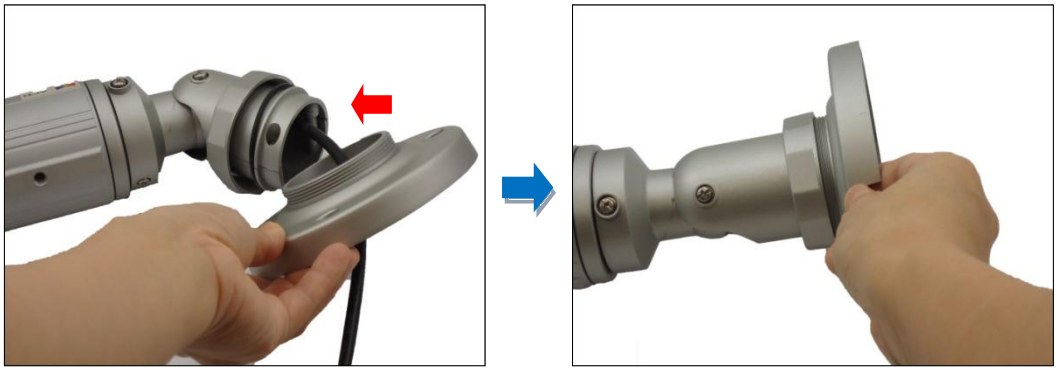
1) Ethernet Connector

Connects to the network and power source. See **Error! Reference source not found.** on page **Error! Bookmark not defined.** for more instructions.

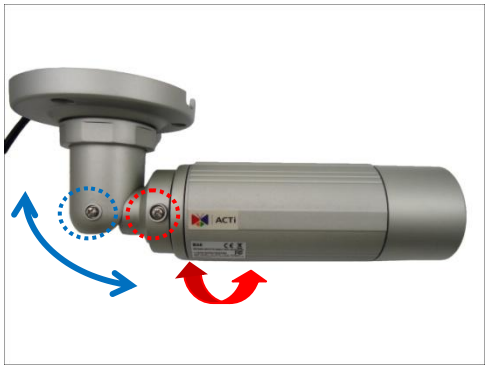
Installation Procedures

Step 1: Mount the Camera

1. Attach the bracket to the camera.



2. Mark the location of the screw holes based on the drill template included in the package.
   NOTE: Depending on the surface where you will install the camera, it may be necessary to drill three (3) holes and use the supplied screw tox.
3. Attach the camera to the surface using the three (3) supplied screws.
4. Adjust the camera installation angle and orientation, and then tighten the two (2) screws to fix its position.



Step 2: Waterproof and Connect the Cable(s)

The camera and the pre-installed network cable, “pigtail”, are resistant to salt, water, weak acid, alcohol, oil, grease and other common solvents. However, users must ensure that the cable connection and the network side cable itself are also protected from different environmental factors.

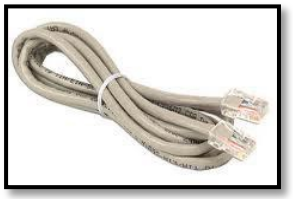
For Ethernet connection, there are two waterproofing methods.

Bundled Accessory	Description
Cable Gland	Use this solution when connecting an Exterior-grade Ethernet cable between the camera and a Power-over-Ethernet (PoE) switch or injector. See ***How to Use the Cable Gland*** on page 11.
Conduit Gland	Use this solution when connecting a standard indoor Ethernet cable between the camera and a Power-over-Ethernet (PoE) switch / injector. A flexible conduit (trade size 1/2”) is required to house the Ethernet cable. See ***How to Use the Conduit Gland*** on page 14. **NOTE:** The flex conduit is not included in the package and must be purchased separately.

How to Use the Cable Gland

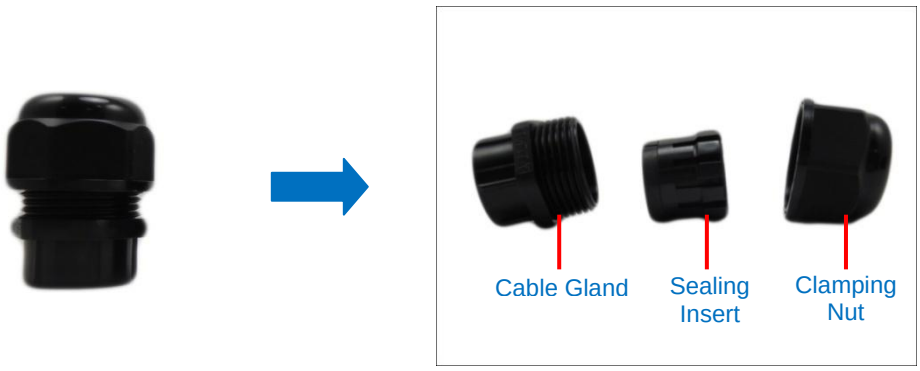
This section describes how to waterproof the cable-out or “pigtail” of the camera using the bundled cable gland. An exterior-grade Ethernet cable is required. The camera may or may not have to be installed first before doing the cable connections (see related installation procedures for details).

Before connection, prepare the following materials:

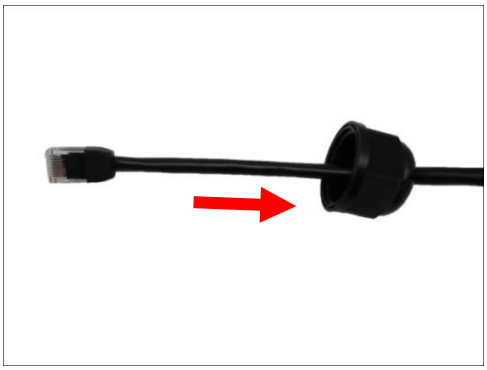
Cable Gland (included in the camera package)	**Exterior-Grade Ethernet Cable** (not included in the package)
	 **NOTE:** Exterior-grade cables are already waterproof. *Not included in the package.*
Washer (included in the camera package)	

Perform the following to waterproof the “pigtail” using the cable gland:

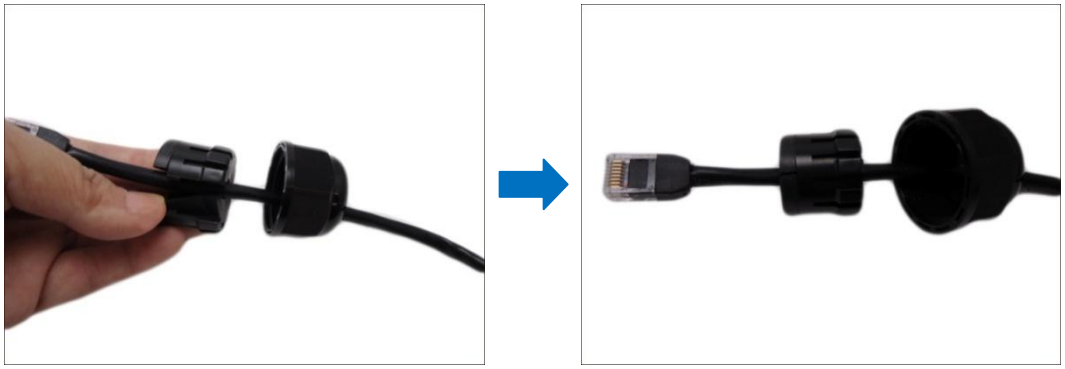
1. Disassemble the cable gland as shown below:



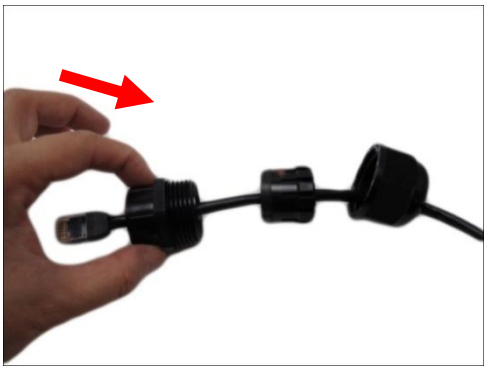
2. Insert the clamping nut into the Ethernet cable.



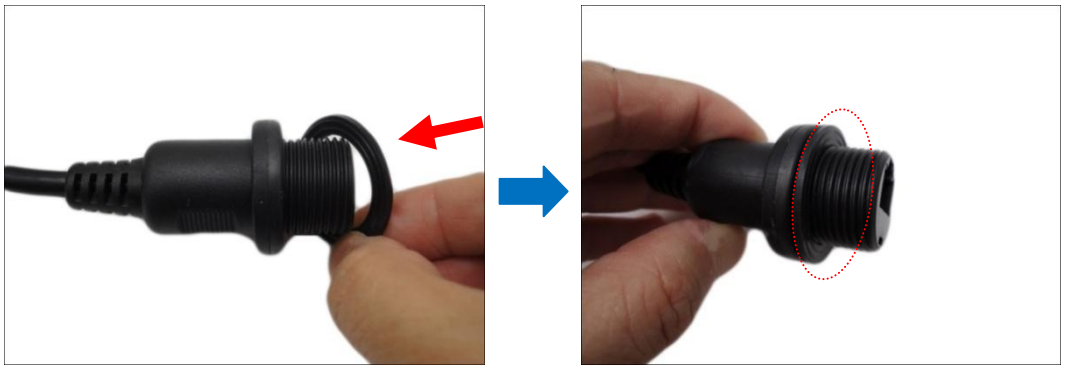
3. Insert the sealing insert with claw.



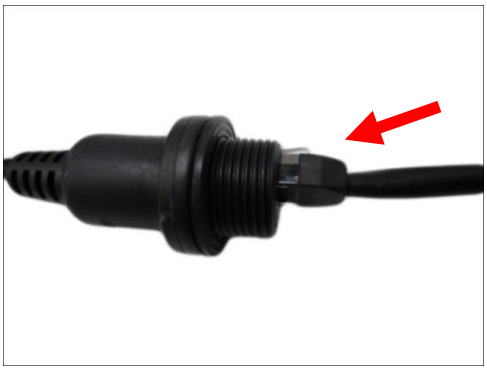
4. Insert the gland body into the Ethernet cable.



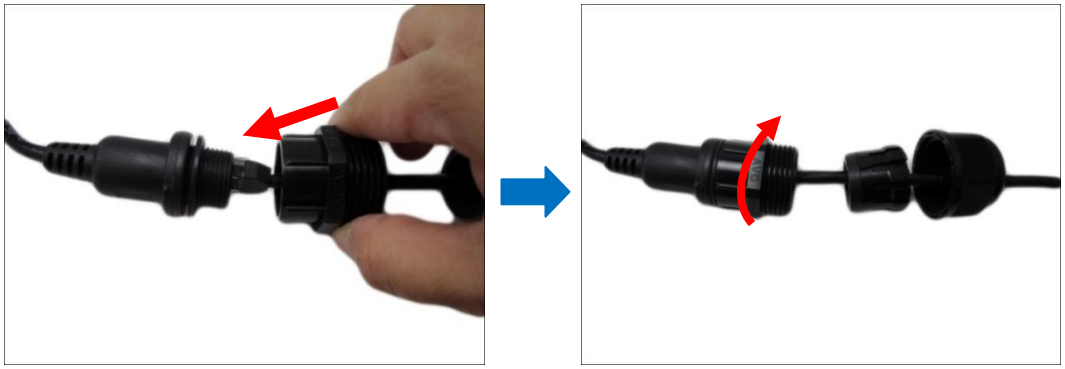
5. On the “pigtail” side, insert the washer into the “pigtail”.



6. Connect the Ethernet cable connector to the “pigtail” connector.

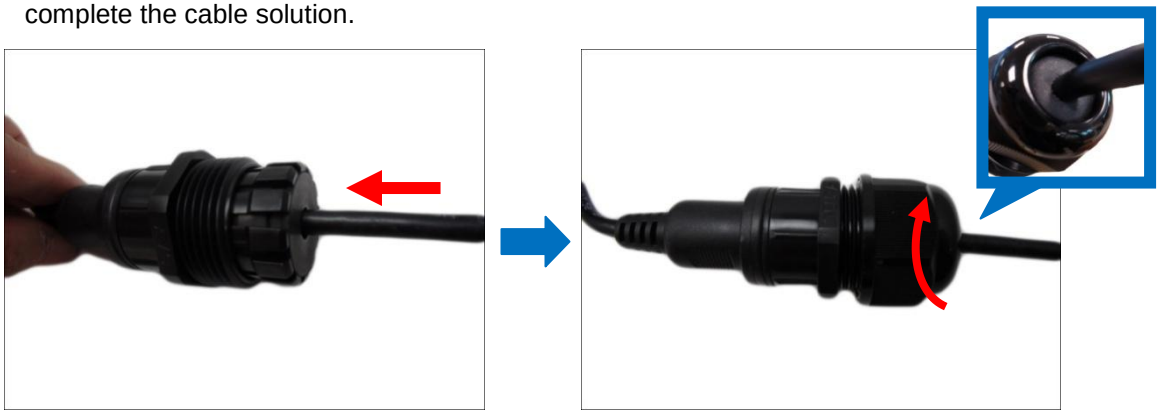


7. Attach the gland body to the “pigtail”.



NOTE: Make sure the gland body is tightly attached to the “pigtail” and the washer is secured between them.

8. Insert the sealing insert into the cable gland body and then attach the clamping nut to complete the cable solution.



NOTE: Make sure the clamping nut is tightly attached to the cable gland body and the sealing insert is squeezed tightly.

How to Use the Conduit Gland

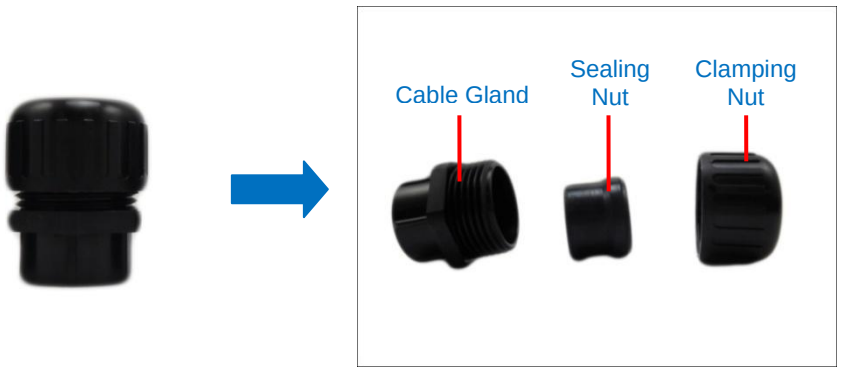
This section describes how to waterproof the cable-out or “pigtail” of the camera using the bundled conduit gland and flexible conduit. This is the recommended solution if an exterior-grade Ethernet cable is not available.

Before connection, prepare the following materials:

Conduit Gland (included in the camera package)	**Flexible Conduit** 1/2" Trade size (not included in the package)
	 NOTE: Not included in the package.
Washer (included in the camera package)	**Ethernet Cable** CAT 5 or CAT 6 (not included in the package)

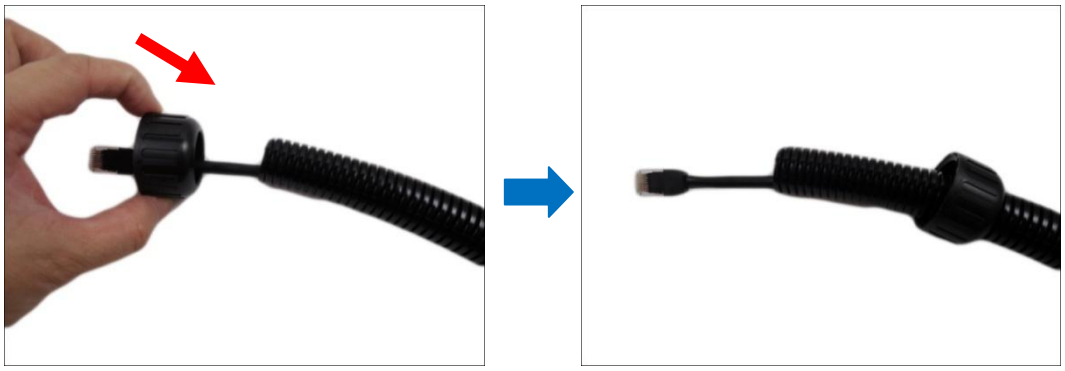
Perform the following to waterproof the “pigtail” using the conduit gland:

1. Disassemble the conduit gland as shown below:

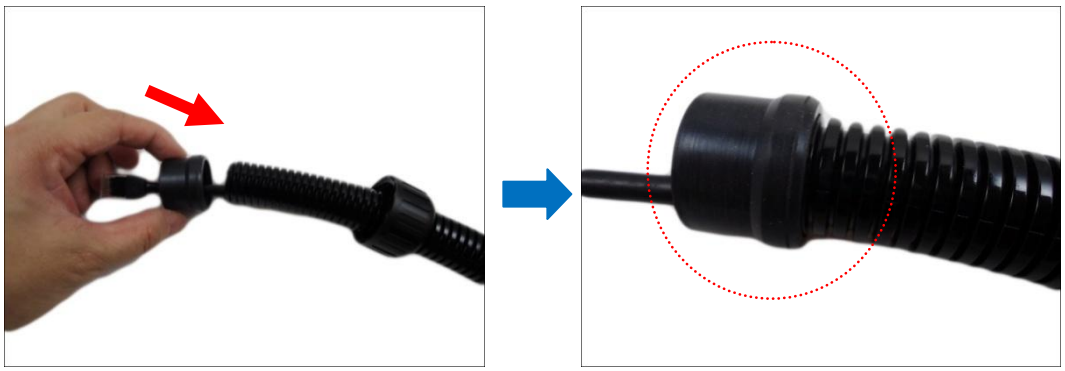


2. Pull the Ethernet cable through the flex conduit. Leave enough length of the cable outside the flex conduit.

3. Insert the clamping nut through the flex conduit.

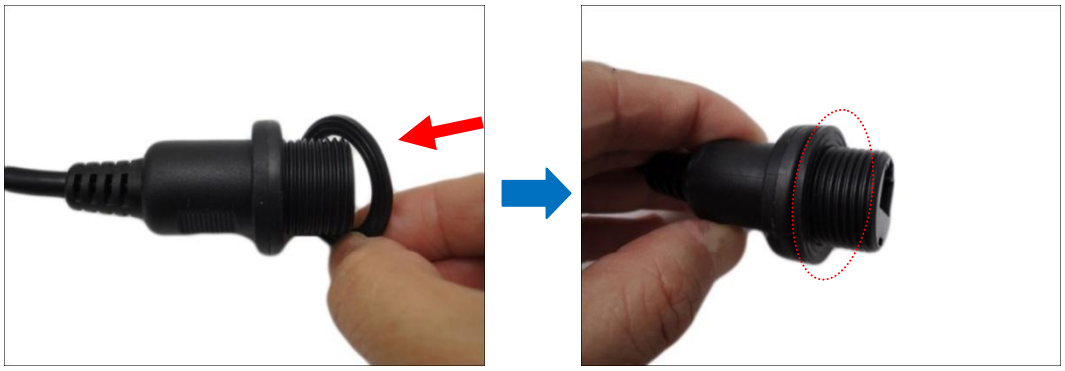


4. Insert the sealing nut and fix it at the end of the flex conduit.



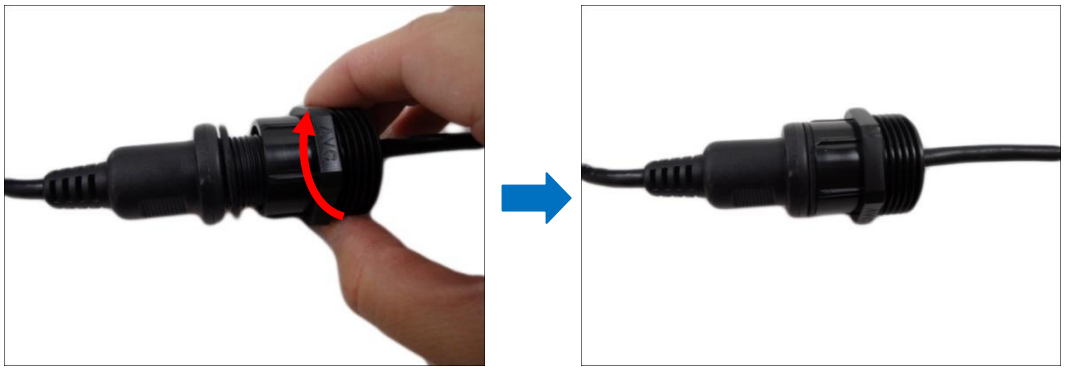
5. Insert the gland body into the Ethernet cable.

6. On the “pigtail” side, insert the washer into the “pigtail”.



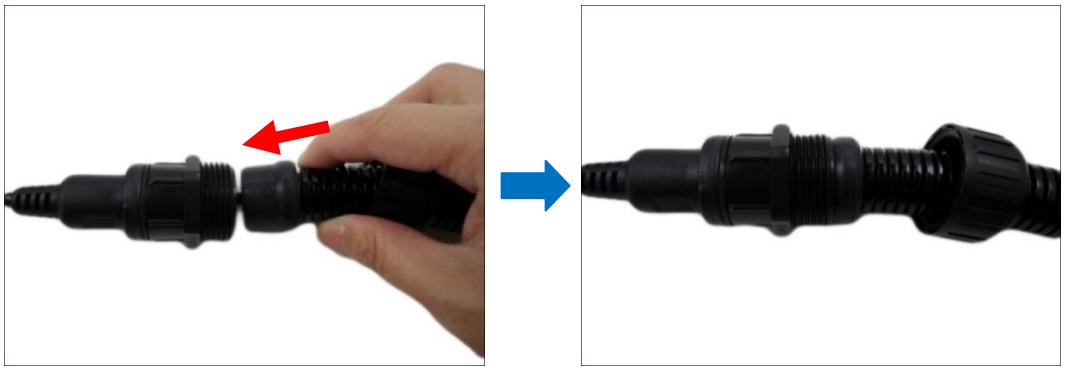
7. Connect the Ethernet cable connector to the “pigtail” connector.

8. Attach the gland body to the “pigtail”.



NOTE: Make sure the gland body is tightly attached to the “pigtail” and the washer is secured between them.

9. Push the flex conduit and insert the sealing nut into the gland body.

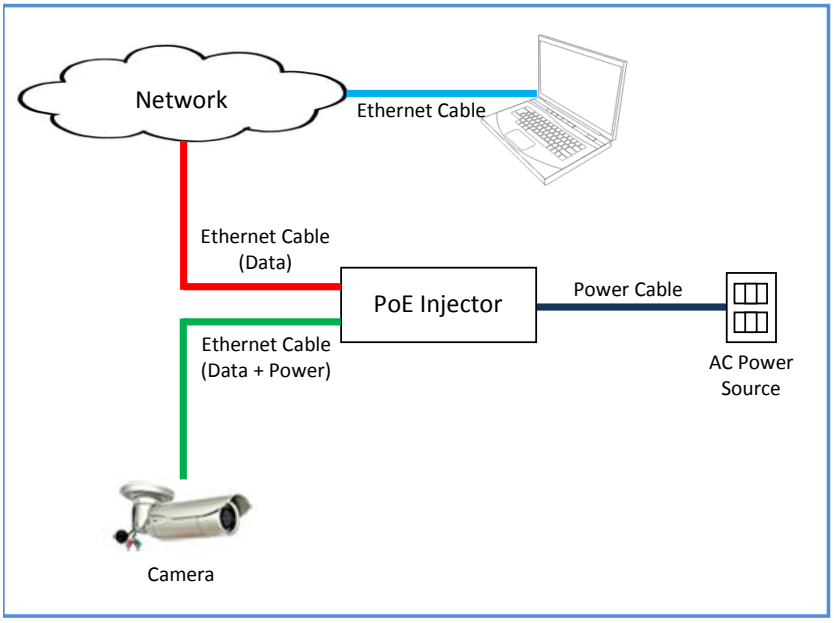


NOTE: Make sure the clamping nut is tightly attached to the cable gland body and the sealing insert is squeezed tightly.

10. Attach the clamping nut to complete the cable solution.

Step 3: Connect to Network

Connect the other end of the network cable to a switch or injector. Then, connect the switch or injector to a network, PC, and a power source. See Power-over-Ethernet (PoE) connection example below.



Step 4: Access the Camera Live View

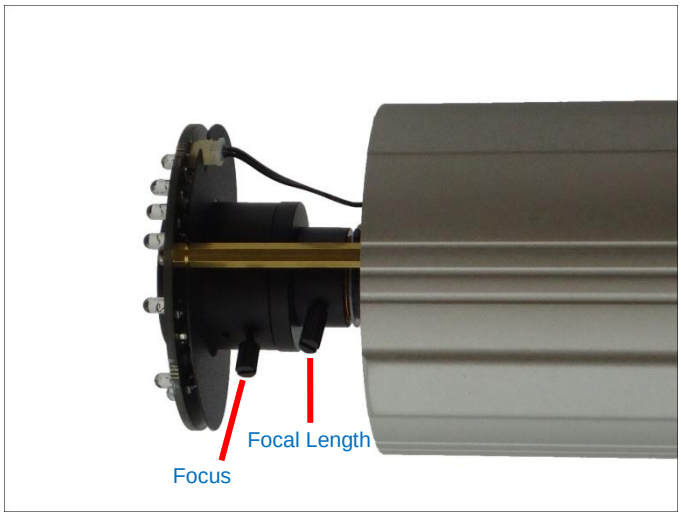
See ***Accessing the Camera*** on page 21 for more information on how to access the Live View of the camera.

Other Adjustments and Accessories

Adjust the Viewing Angle

1. Open the front cover.

2. Based on the live view from the camera, adjust the focal length and focus of the target area.



3. When done, close the front cover.

CAUTION: The front cover must be tightly closed to ensure water or dust does not go through any opening.

Attach the Sunshield

The use of sunshield is optional if the camera will be installed indoors. However, if the camera will be installed outdoors, attach the sunshield to protect the lens from all types of weather and lighting conditions.

1. Loosely secure the supplied screws and washers to attach the sunshield.

2. Slide to adjust the sunshield to cover the lens as far as possible but out of the camera's live view.

3. Tighten the screws to fix the position of the sunshield. See final installation below.

Accessing the Camera

Configure the IP Addresses

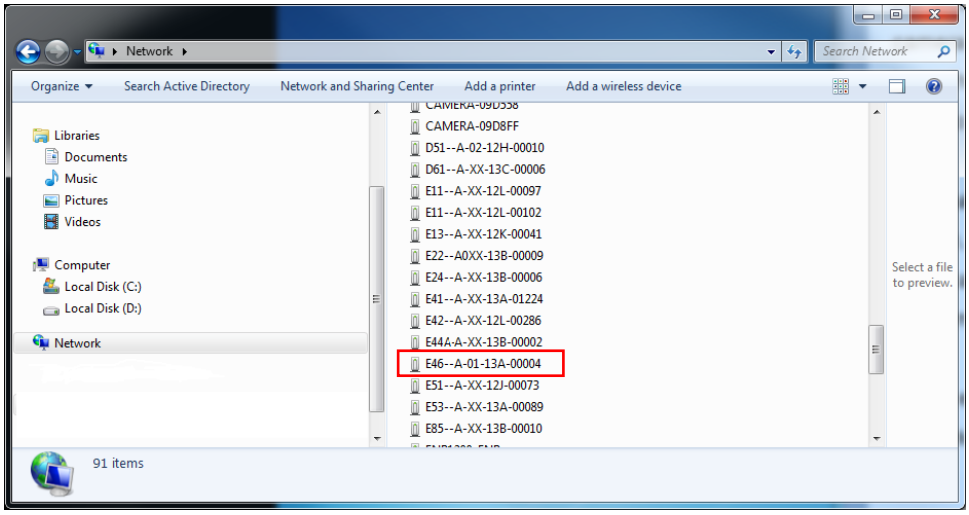
In order to be able to communicate with the camera from your PC, both the camera and the PC have to be within the same network segment. In most cases, it means that they both should have very similar IP addresses, where only the last number of the IP address is different from each other. There are 2 different approaches to IP Address management in Local Area Networks – by DHCP Server or Manually.

Using DHCP Server to Assign IP Addresses

If you have connected the computer and the camera into the network that has a DHCP server running, then you do not need to configure the IP addresses at all – both the camera and the PC would request a unique IP address from DHCP server automatically. In such case, the camera will immediately be ready for the access from the PC. The user, however, might not know the IP address of the camera yet. It is necessary to know the IP address of the camera in other to be able to access it by using a Web browser.

The quickest way to discover the cameras in the network is to use the simplest network search, built in the Windows system – just by pressing the “Network” icon, all the cameras of the local area network will be discovered by Windows thanks to the UPnP function support of our cameras.

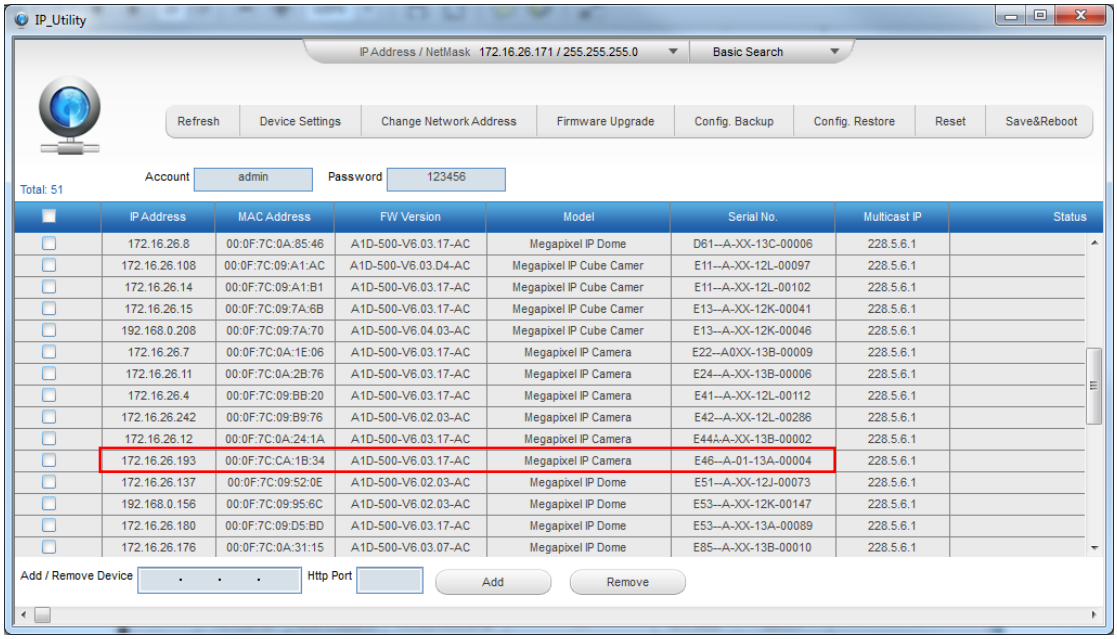
In the example below, we successfully found the camera model that we had just connected to the network.



By double-clicking with the left mouse on the camera model, it is possible to automatically launch the default browser of the PC with the IP address of the target camera filled in the address bar of the browser already.

If you work with our cameras regularly, then **there is even a better way to discover the cameras in the network** – by using **IP Utility**. The IP Utility is a light software tool that can not only discover the cameras, but also list lots of valuable information, such as IP and MAC addresses, serial numbers, firmware versions, etc, and allows quick configuration of multiple devices at the same time.

The IP Utility can be downloaded for free from **http://www.acti.com/IP_Utility**
With just one click, you can launch the IP Utility and there will be an instant report as follows:



You can quickly see the camera model in the list. Click on the IP address to automatically launch the default browser of the PC with the IP address of the target camera filled in the address bar of the browser already.

Using the Default Camera IP Address

If there is no DHCP server in the given network, the user may have to assign the IP addresses to both PC and camera manually to make sure they are in the same network segment.

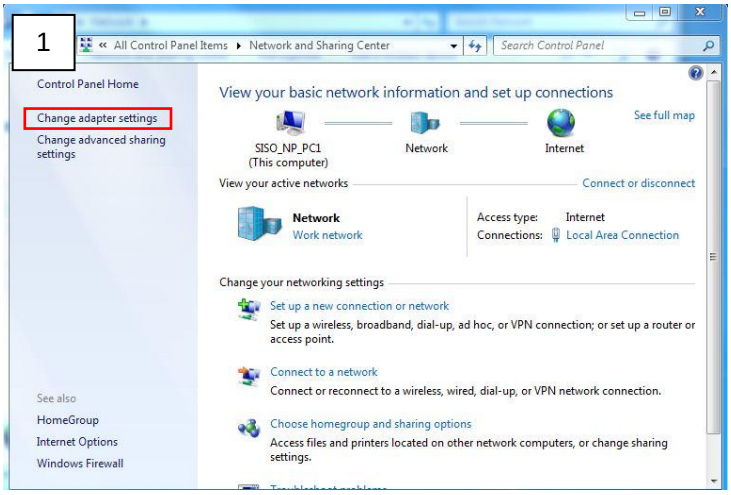
When the camera is plugged into network and it does not detect any DHCP services, it will automatically assign itself a default IP:

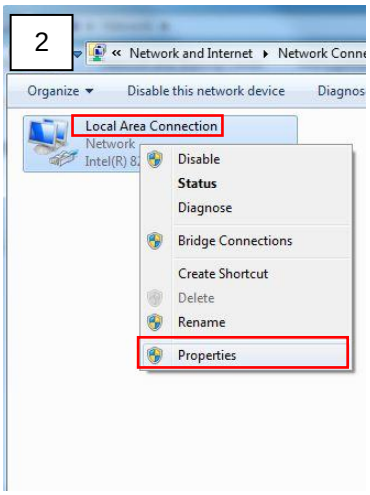
192.168.0.100

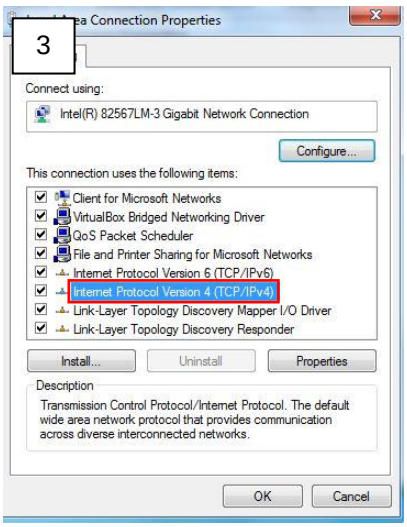
Whereas the default port number would be **80**. In order to access that camera, the IP address of the PC has to be configured to match the network segment of the camera.

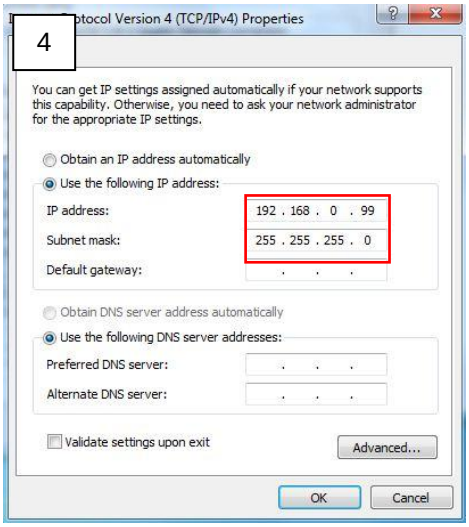
Manually adjust the IP address of the PC:

In the following example, based on Windows 7, we will configure the IP address to **192.168.0.99** and set Subnet Mask to **255.255.255.0** by using the steps below:



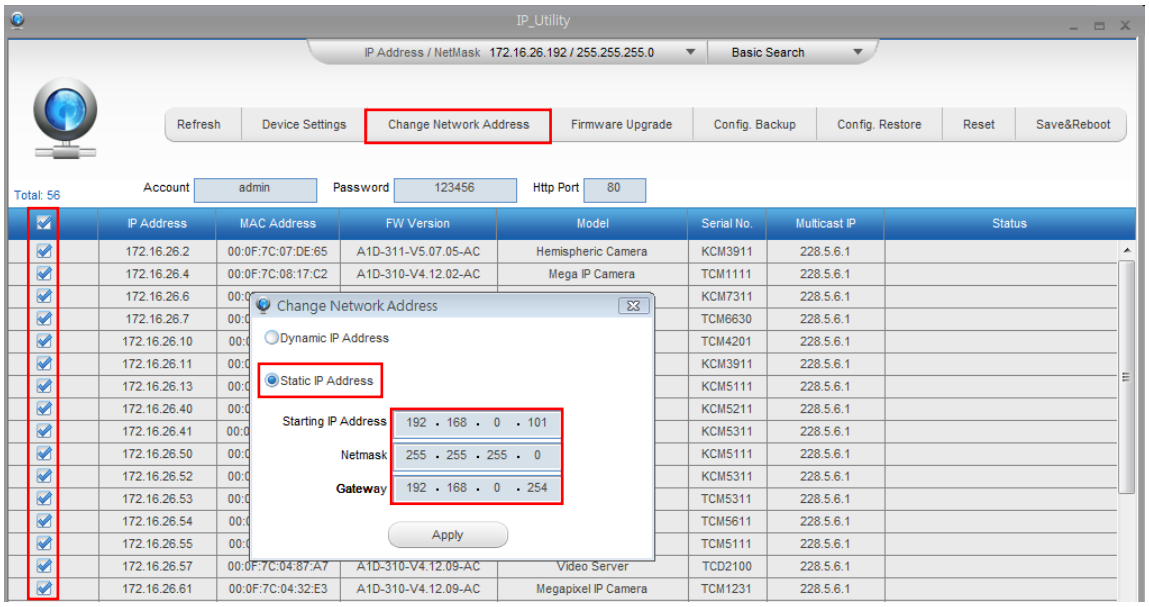






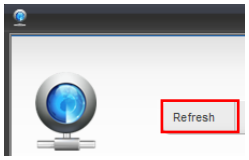
Manually adjust the IP addresses of multiple cameras:

If there are more than 1 camera to be used in the same local area network and there is no DHCP server to assign unique IP addresses to each of them, all of the cameras would then have the initial IP address of **192.168.0.100**, which is not a proper situation for network devices – all the IP addresses have to be different from each other. The easiest way to assign cameras the IP addresses is by using **IP Utility**:



With the procedure shown above, all the cameras will have unique IP addresses, starting from 192.168.0.101. In case there are 20 cameras selected, the last one of the cameras would have the IP 192.168.0.120.

Later, by pressing the “Refresh” button of the IP Utility, you will be able to see the list of cameras with their new IP addresses.



Please note that it is also possible to change the IP addresses manually by using the Web browser. In such case, please plug in only one camera at a time, and change its IP address by using the Web browser before plugging in the next one. This way, the Web browser will not be confused about two devices having the same IP address at the same time.

Access the Camera

Now that the camera and the PC are both having their unique IP addresses and are under the same network segment, it is possible to use the Web browser of the PC to access the camera.

You can use **any of the browsers** to access the camera, however, the full functionality is provided only for **Microsoft Internet Explorer**.

The browser functionality comparison:

Functionality	Internet Explorer	Other browsers
Live Video	Yes	Yes*
Live Video Area Resizable	Yes	No
PTZ Control	Yes	Yes
Capture the snapshot	Yes	Yes
Video overlay based configuration (Motion Detection regions, Privacy Mask regions)	Yes	No
All the other configurations	Yes	Yes

* When using non-Internet Explorer browsers, free third-party software plug-ins must be installed to the PC first to be able to get the live video feed from the camera:

Browser	Required Plug-In
Safari	QuickTime (http://www.apple.com/quicktime/download/)
Other non-Internet Explorer browsers	Basic VLC Media Player (http://www.videolan.org)

Disclaimer Notice: The camera manufacturer does not guarantee the compatibility of its cameras with QuickTime or VLC Player – since these are third party softwares. The third parties have the right to modify their utility any time which might affect the compatibility. In such cases, please use Internet Explorer browser instead.

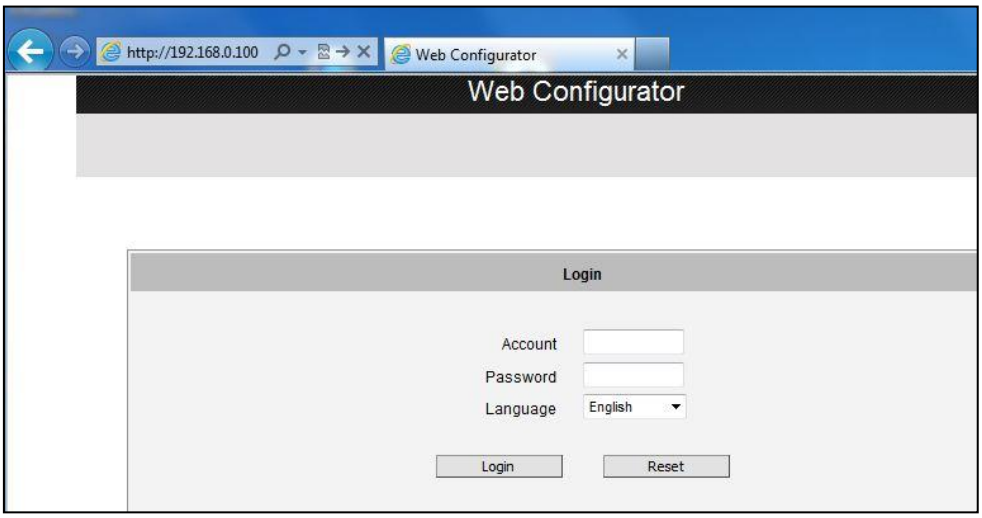
When using Internet Explorer browser, the ActiveX control for video stream management will be downloaded from the camera directly – the user just has to accept the use of such control when prompted so. No other third party utilities are required to be installed in such case.

The following examples in this manual are based on Internet Explorer browser in order to cover all functions of the camera.

Assuming that the camera's IP address is **192.168.0.100**, you can access it by opening the Web browser and typing the following address into Web browser's address bar:

http://192.168.0.100

Upon successful connection to the camera, the user interface called **Web Configurator** would appear together with the login page. The HTTP port number was not added behind the IP address since the default HTTP port of the camera is 80, which can be omitted from the address for convenience.



Before logging in, you need to know the factory default Account and Password of the camera.

Account: **Admin**

Password: **123456**

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